REMARKS

Claims 1, 2, 5 and 6 are pending and under consideration in the above-identified application. Claims 3, 4 and 7-12 were withdrawn from consideration pursuant to a restriction requirement.

In the Office Action dated November 20, 2008, the Examiner rejected claims 1, 2, 5 and 6.

With this Amendment, claim 1 was amended. No new matter has been introduced as a result of the amendments.

I. Information Disclosure Statement

The Information Disclosure Statement (IDS) filed on February 15, 2006 fails to comply with 37 CFR 1.97 -1.98 because JP6260471 is not translated. Applicant is in the process of obtaining an English translation of the reference and will submit the translation as soon as possible.

II. 35 U.S.C. § 102 Anticipation Rejection of Claims

Claims 1 and 5 were rejected under 35 U.S.C. § 102(b) as being anticipated by Kudome et al. (JP 2252601). Applicant respectfully traverses this rejection.

The claims require a fuel reforming apparatus for taking out a hydrogen gas from a hydrogen-containing fuel fluid that includes a catalyst unit, a catalyst passage formed in the catalyst unit and a local irradiation means for locally irradiating light onto the catalyst passage. The local irradiation means is effective to activate the catalyst, which removes hydrogen gas from the hydrogen-containing fuel fluid that passes through the catalyst unit. A hydrogen recovery unit downstream of the catalyst unit separates the hydrogen gas removed from the hydrogen-containing fuel fluid from the remaining hydrogen-containing fuel fluid. As a result of

the local light irradiation, the fuel removing apparatus is capable of removing hydrogen from a fuel without the need for a heat insulating wall, which in turn allows the apparatus to be made smaller. *Id.* at page 5.

Kudome teaches a fuel reforming equipment that uses solar heat to reform a fossil fuel. Kudome et al. Abstract. However, Kudome et al. teaches that the raw material gas is reformed to a gas consisting of H_2 and CO using heat whereas the claims require that only hydrogen gas is removed from the hydrogen-containing fuel fluid by means of catalyst that is activated by light irradiation. *Id.* Additionally, Kudome et al. does not teach or even fairly suggest a hydrogen recovery unit, which separates the hydrogen gas removed from the hydrogen-containing fuel and the remaining hydrogen-containing fuel fluid as required by the claims. As such, Kudome et al. does not teach or even fairly suggest all the required elements of the claims. Thus, independent claim 1 is patentable over the cited reference, as is dependent claim 5 for at least the same reasons. Accordingly, Applicant respectfully requests that the above rejection be withdrawn.

Claims 1-2 and 6 were rejected under 35 U.S.C. § 102(b) as being anticipated by Engler et al. (U.S. Patent No. 5,569,441). Applicant respectfully traverses this rejection.

Engler et al. teaches a process and apparatus for accelerating the rate of heating of a fixed bed catalyst for a catalytic reaction by providing a supplementary energy source to the catalyst bed. Engler et al., Abstract. The supplementary energy source is a heat source, which increases the temperature of the gases and causes an exothermic reaction. Engler et al., Col. 6, lines 21-31. The claims, however, require light irradiation to activate the catalyst rather than heat. Specification, page 5. As discussed in the specification, the claims do not use heat to activate the catalyst because the heat loss makes it difficult to control temperature and requires heat-insulating walls. Specification, pages 3-4. Engler et al., however, specifically teaches an

exothermic reaction, which releases energy in the form of heat. Additionally, Engler et al. does not teach or even fairly suggest the hydrogen recovery unit as required by the claims. As such, Engler et al. does not teach or even fairly suggest the same elements of the claims. Thus, independent claim 1 is patentable over the cited reference, as is dependent claims 2 and 6 for at least the same reasons. Accordingly, Applicant respectfully requests that the above rejection be withdrawn.

Claims 1 and 6 were rejected under 35 U.S.C. § 102(b) as being anticipated by Arakawa et al. (U.S. Publication No. 2003-0017702). Applicant respectfully traverses this rejection.

Arakawa et al. teaches a photocatalyst to produce hydrogen from water, decompose harmful gases from air into harmless gases and breakdown harmful substances such as fluorocarbons, ammonia and hydrogen sulfide found in air or other materials. Arakawa et al., paragraphs [0024-0027]. Arakawa et al. does not, however, teach or even fairly suggest the removal of hydrogen from a hydrogen-containing fuel or a hydrogen recovery unit, which separates the hydrogen gas removed from the hydrogen-containing fuel and the remaining hydrogen-containing fuel fluid as required by the claims. As such, Arakawa et al. does not teach or even fairly suggest all the required elements of the claims. Thus, claim 1 is patentable over the cited reference as is dependent claim 6 for at least the same reasons. Accordingly, Applicant respectfully requests that the above rejection be withdrawn.

III. Conclusion

In view of the above amendments and remarks, Applicant submits that all claims are clearly allowable over the cited prior art, and respectfully requests early and favorable notification to that effect.

Respectfully submitted,

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